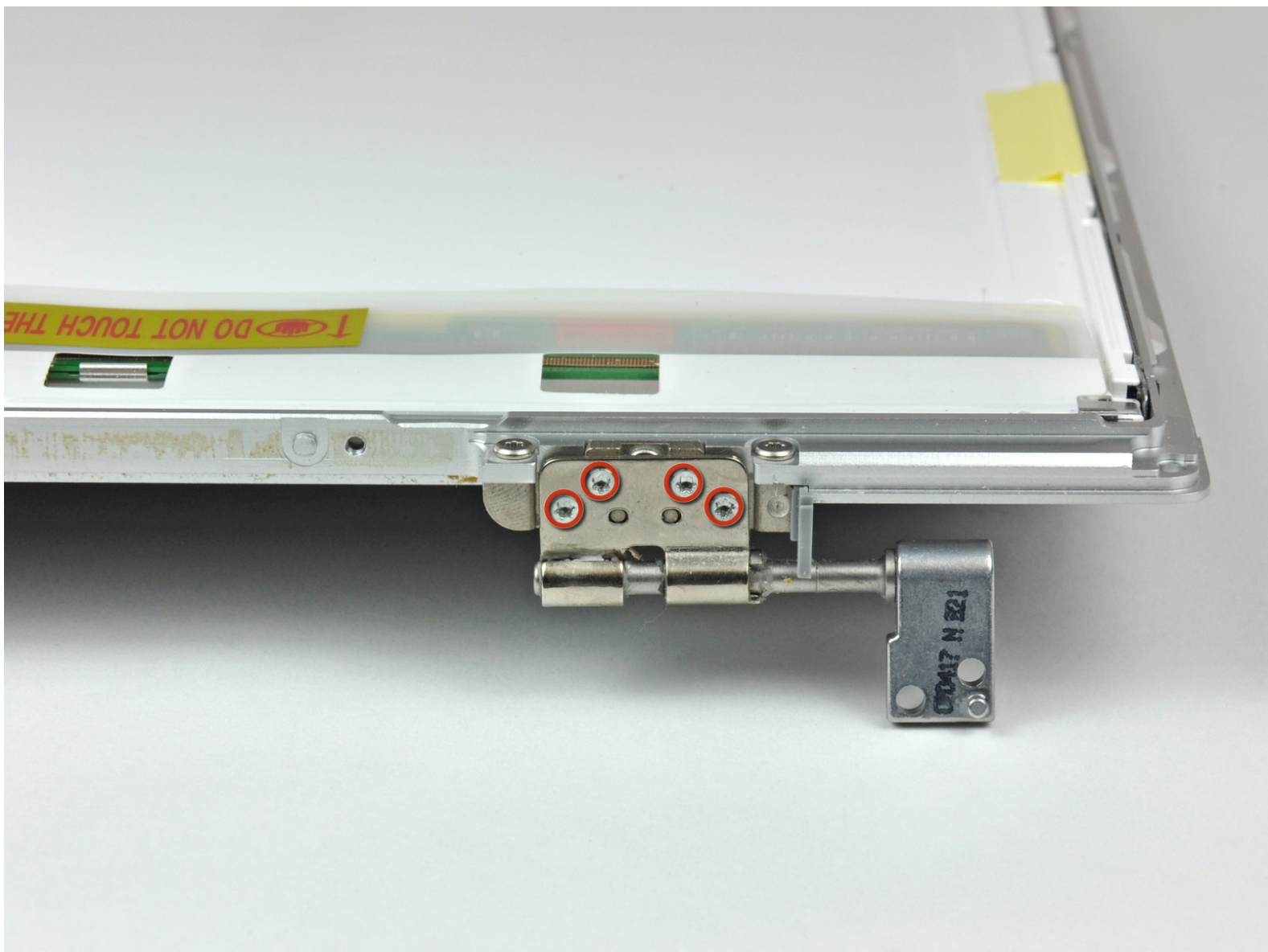




MacBook Pro 15" Core 2 Duo Models A1226 and A1260 Left Clutch Hinge Replacement

Written By: Walter Galan



INTRODUCTION

Replace a broken clutch hinge to keep your display opening silky-smooth.



TOOLS:

- [iFixit Opening Tools](#) (1)
- [Phillips #00 Screwdriver](#) (1)
- [Spudger](#) (1)
- [T6 Torx Screwdriver](#) (1)



PARTS:

- [MacBook Pro 15" Left Clutch Hinge](#) (1)

Step 1 — Battery



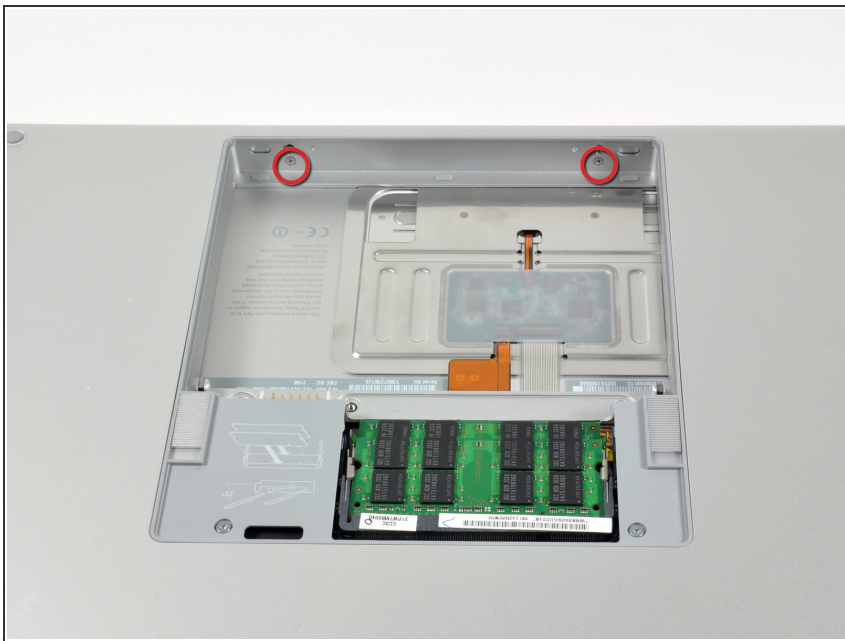
- Use your fingers to push both battery release tabs away from the battery, and lift the battery out of the computer.

Step 2 — RAM Shield



- Remove the three identical 2mm PH000 Phillips screws from the memory door.
- Lift the memory door up enough to grip it and slide it toward you, pulling it away from the casing.

Step 3 — Upper Case



- Remove the two 2.8 mm Phillips screws in the battery compartment near the latch.

Step 4



- Remove the following 6 screws:
 - Two 10 mm T6 Torx screws on either side of the RAM slot.
 - Four 14.5 mm Phillips screws along the hinge.

Step 5



- Remove the four 3.2 mm PH00 Phillips screws on the port side of the computer.

Step 6



- Rotate the computer 90 degrees and remove the two 3.2 mm Phillips screws from the rear of the computer.

Step 7



- Rotate the computer 90 degrees again and remove the four 3.2 mm Phillips screws from the side of the computer.

Step 8



- i** Do not yank the upper case off quickly. The case is attached to the logic board via a ribbon cable.

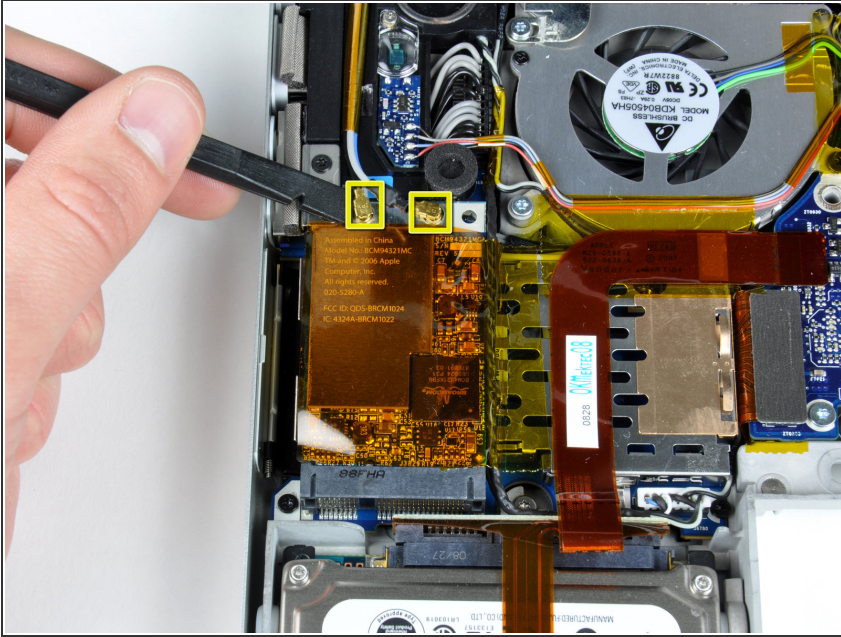
 - Lift up at the rear of the case and work your fingers along the sides, freeing the case as you go. Once you have freed the sides, you may need to rock the case up and down to free the front of the upper case.
 - There are four plastic clips above the DVD slot, and another above and to the left of the IR sensor. These clips can be very difficult to disengage without prying. They can also be difficult to re-engage during reassembly.
- ★ Reassembly Tip:** Press down firmly on the tip of the top case above the location of each clip until you hear a *snap* to reseat them in their slots.
- ★ Reassembly Tip:** The two center DVD clips will rarely snap back into place properly without help, and downward pressure will instead simply deform the frame around the DVD slot. Support the frame by inserting a plastic spudger into the DVD slot directly under the clip location until it is snug, then press down until you hear the *snap*.

Step 9



- Disconnect the trackpad and keyboard ribbon cable from the logic board, removing tape as necessary.
- ⓘ Note: It is possible to replace the hard drive without disconnecting the keyboard from the chassis, but it will need to be held upright to keep it out of the way, while still allowing you both hands to work on the drive removal.
- ⓘ Be careful when removing the keyboard-trackpad ribbon cable to ensure that the rear of the upper case is disengaged from the area near the hinge. It is easy to accidentally bend the screw receivers on either side of the keyboard.
- Remove the upper case.

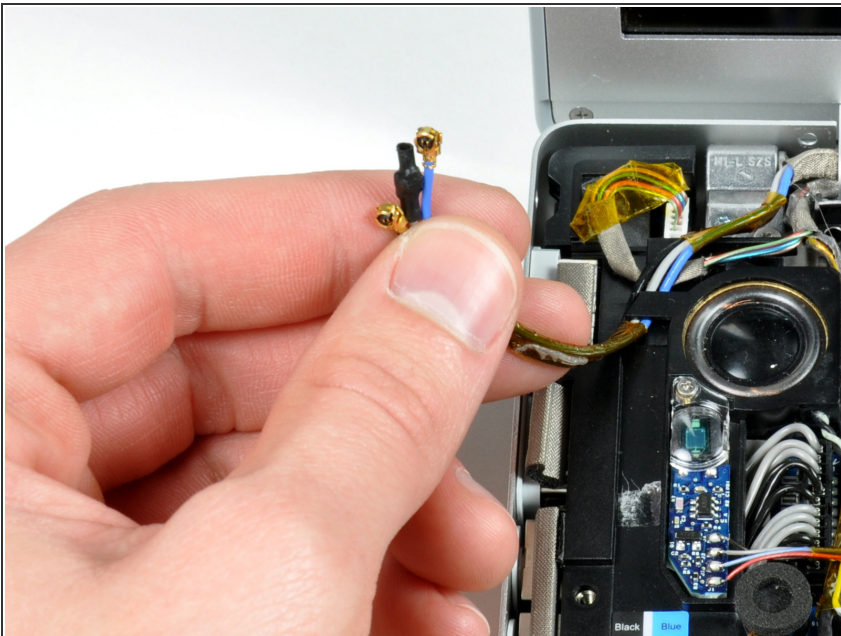
Step 10 — Display Assembly



- Disconnect the two or three antenna cables attached to the Airport Extreme card. Depending on your model, one of the three cables may be unused and capped with a black shrink tube.

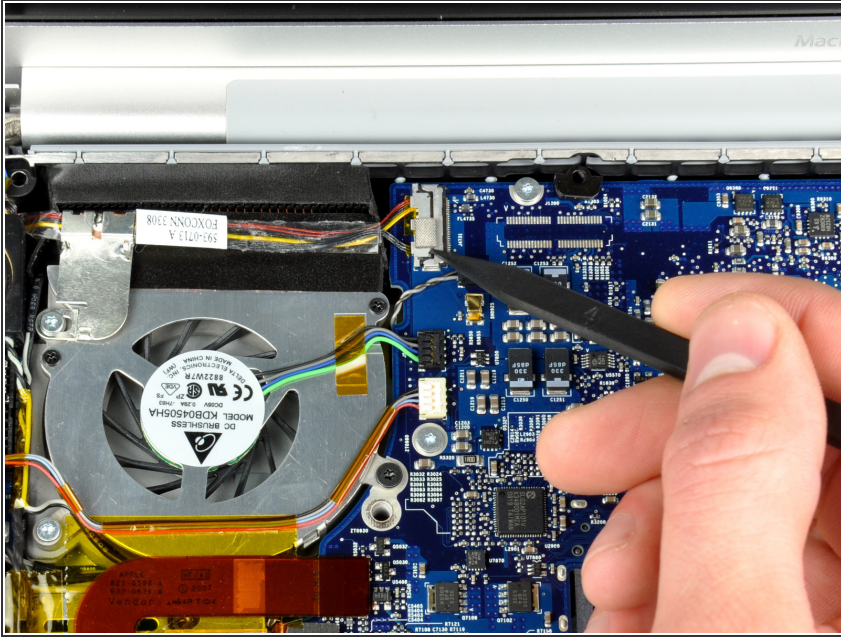
★ Apple was kind enough to include a label showing where each color antenna cable plugs in - just make sure to look at this when reconnecting the antenna cables.

Step 11



- Deroute the Airport antenna cables from their channel in the left speaker.

Step 12



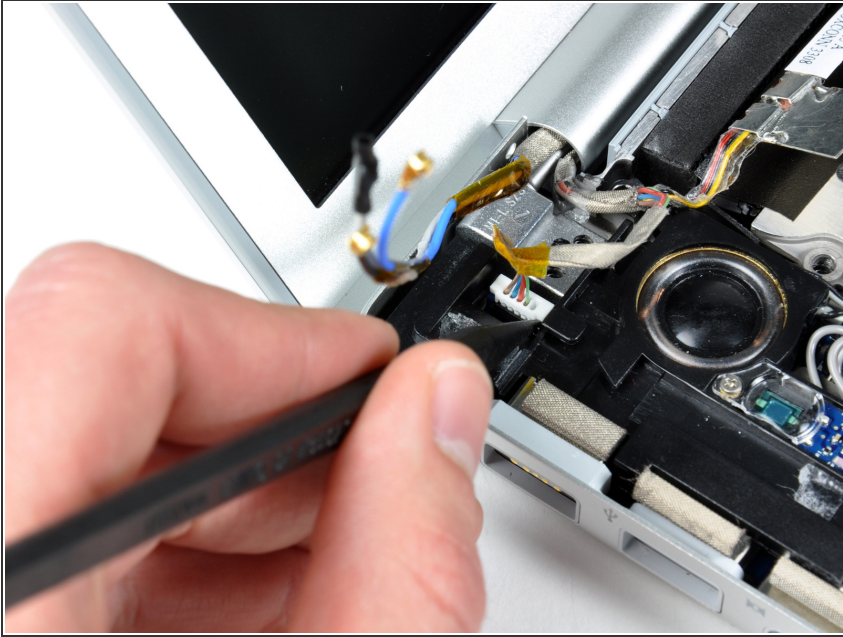
- Disconnect the iSight cable from the logic board by sliding the cable to the left and out of its connector.

Step 13



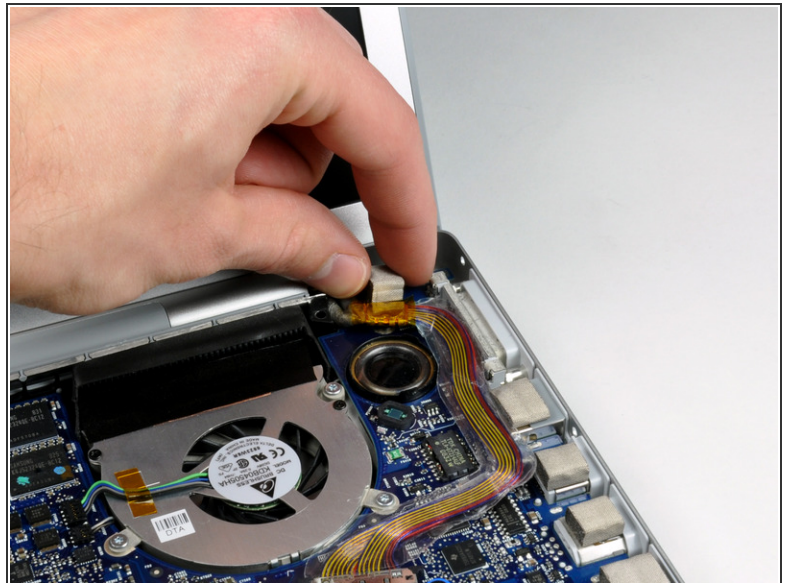
- Support the display with one hand while removing the following screws:
 - One 9.5 mm silver T6 Torx screw with threads on only 3 mm of the shaft on the inside of the display hinges.
 - One 9.5 mm silver T6 Torx screw with threads on the entire shaft on the outside of the left hinge.
 - One 9.2 mm full thread T6 Torx screw securing the iSight cable ground loop to the fan.

Step 14



- Disconnect the inverter cable from the left I/O board by placing a spudger beneath the cable and lifting up.

Step 15



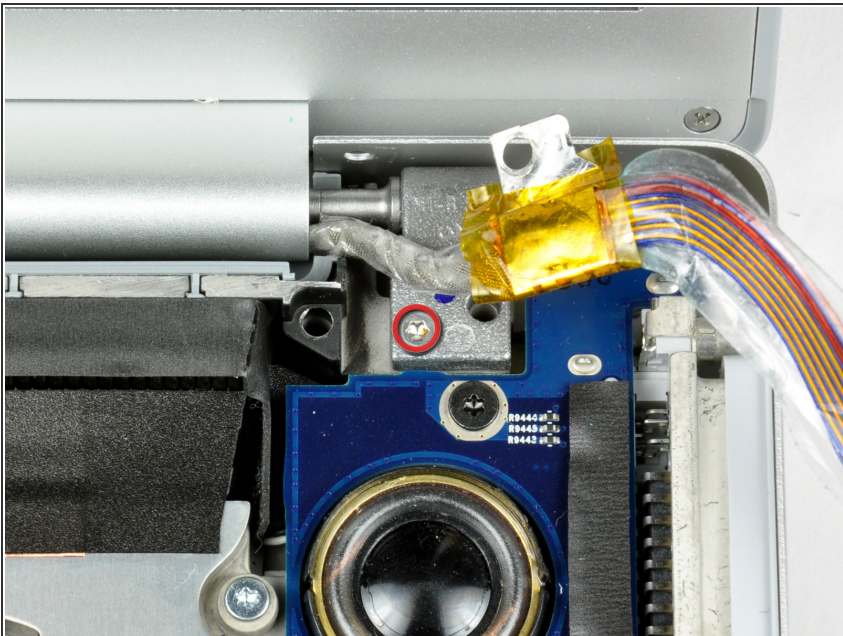
- Disconnect the display data cable from the logic board.
- Remove the foam bumper from the top of the right hinge of the display.

Step 16



- Remove the silver 9.2 mm T6 Torx securing the ground loop in the display data cable to the casing.

Step 17



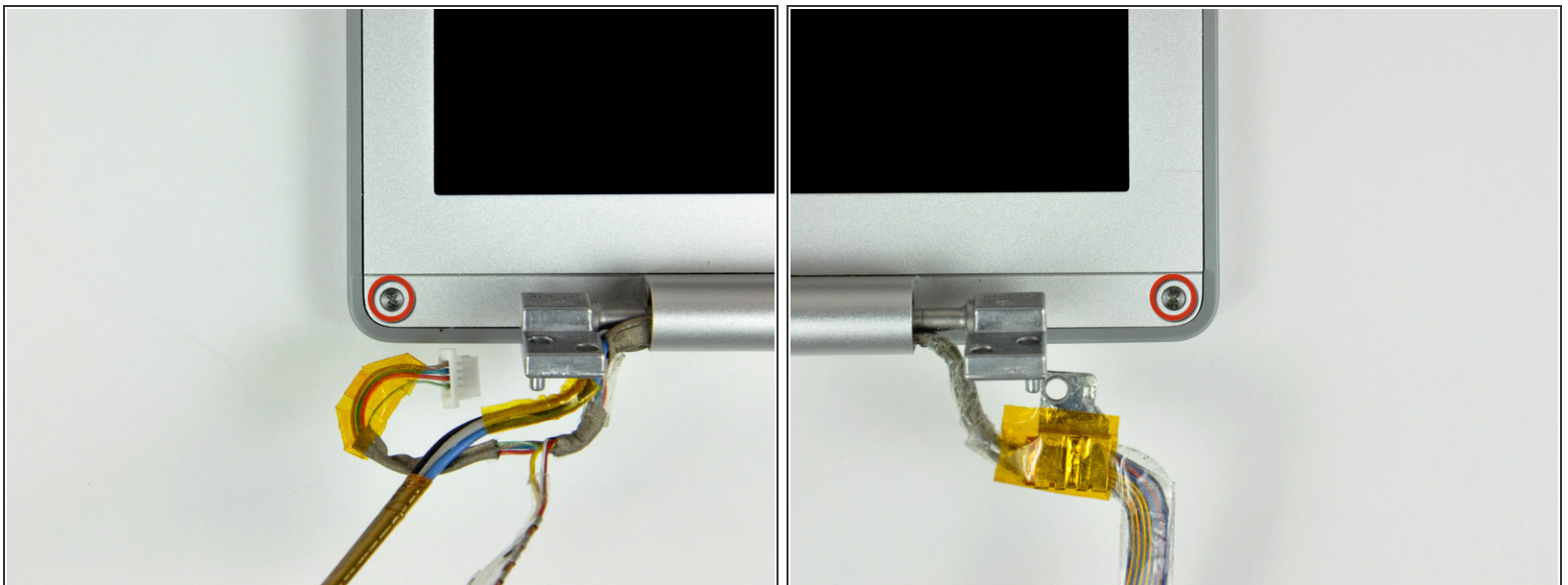
- Support the display with one hand while removing the following screw:
 - One 9.5 mm silver T6 Torx screw with threads on only 3 mm of the shaft on the inside of the display hinges.

Step 18



- Grasp the display assembly on both sides and lift it up and out of the computer.

Step 19 — Rear Display Bezel



- Remove the 4.5 mm Phillips screws from the lower left and right corners of the display (two screws total). These screws have a .8 mm thick head.

Step 20

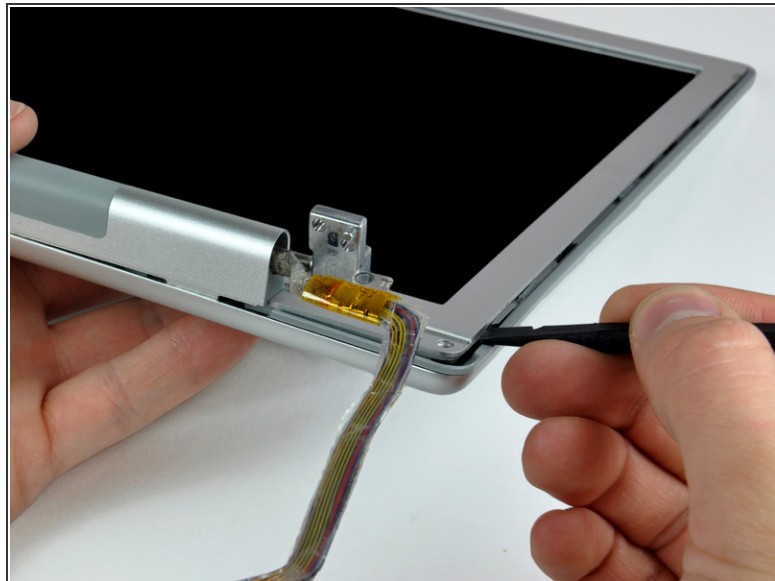
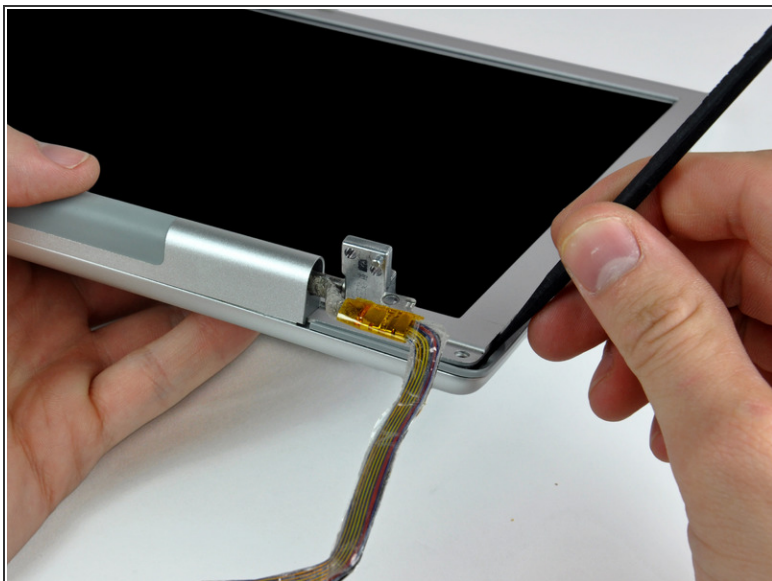


- Insert the flat end of a spudger perpendicular to the face of the display between the plastic strip attached to the rear bezel and the front bezel.

 Do not insert your spudger between the plastic strip and the rear bezel.

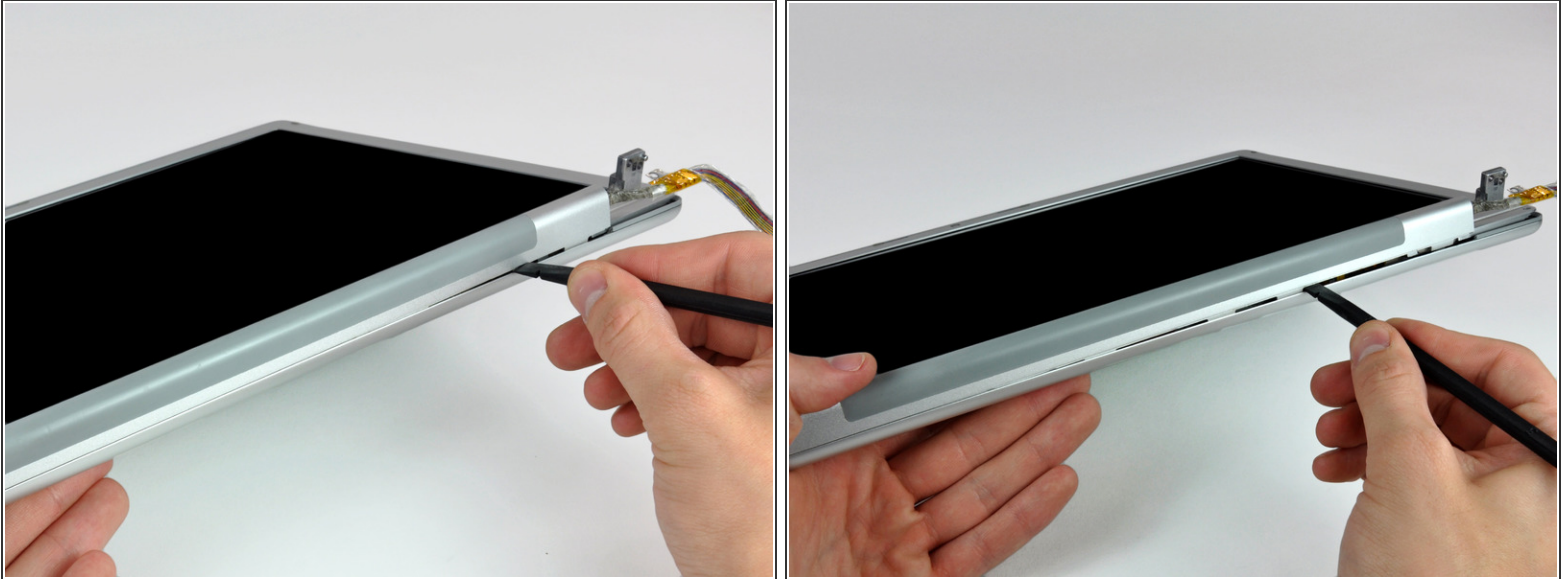
- With the spudger still inserted, rotate it away from the display to separate the front and rear bezels.
- Work along the right edge of the display until the rear bezel is evenly separated from the front bezel.

Step 21



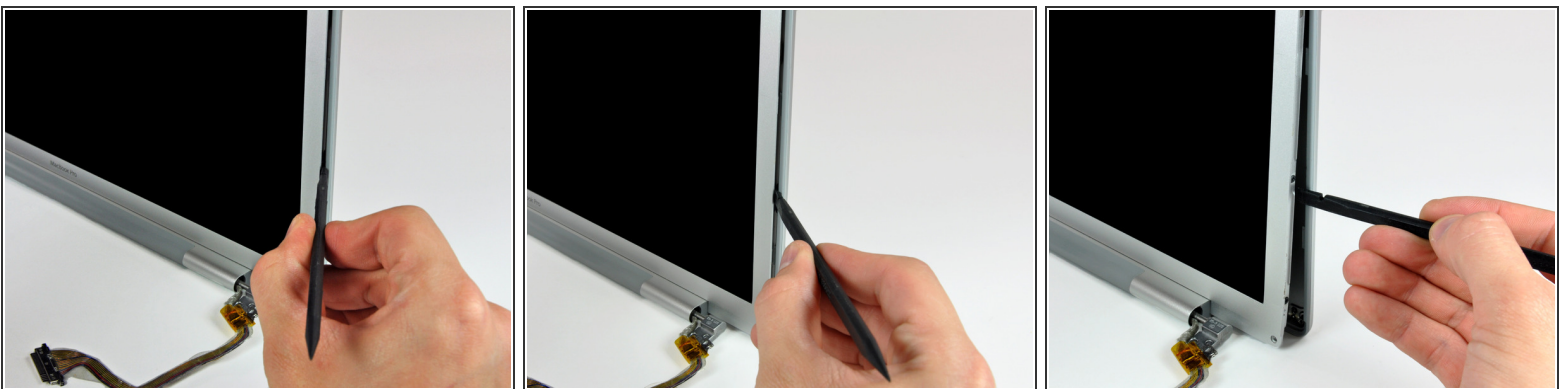
- Insert your spudger between the front and rear display bezels at the lower right corner of the display.
- Pry the rear bezel away from the front bezel to slightly separate the bottom edge of the rear display bezel.

Step 22



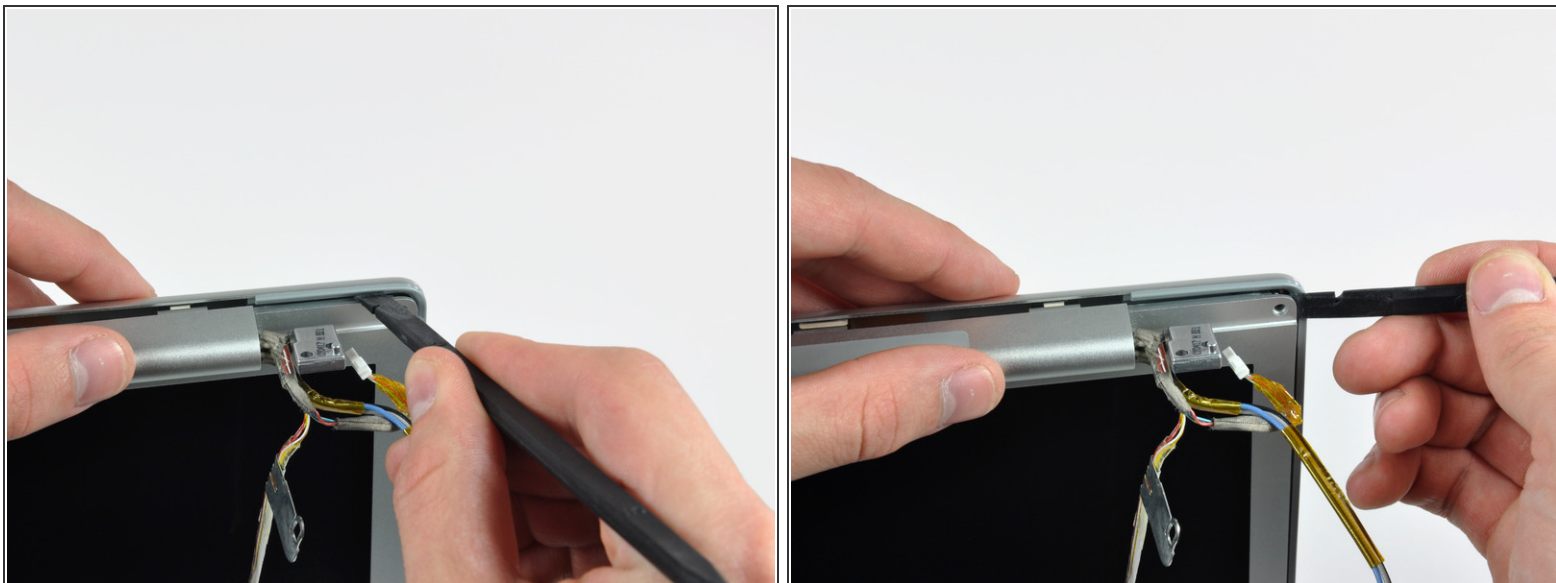
- Insert the flat end of a spudger into the gap between the rear display bezel and the clutch cover.
- Twist the spudger to separate the lower edge of the rear display bezel from the clutch cover.
- Work along the lower edge of the rear bezel until it is evenly separated from the clutch cover.

Step 23



- Now that the right and bottom edges of the rear bezel are slightly separated from the front bezel, use a spudger to pop the rear bezel off the tabs near the lower right corner of the display.

Step 24



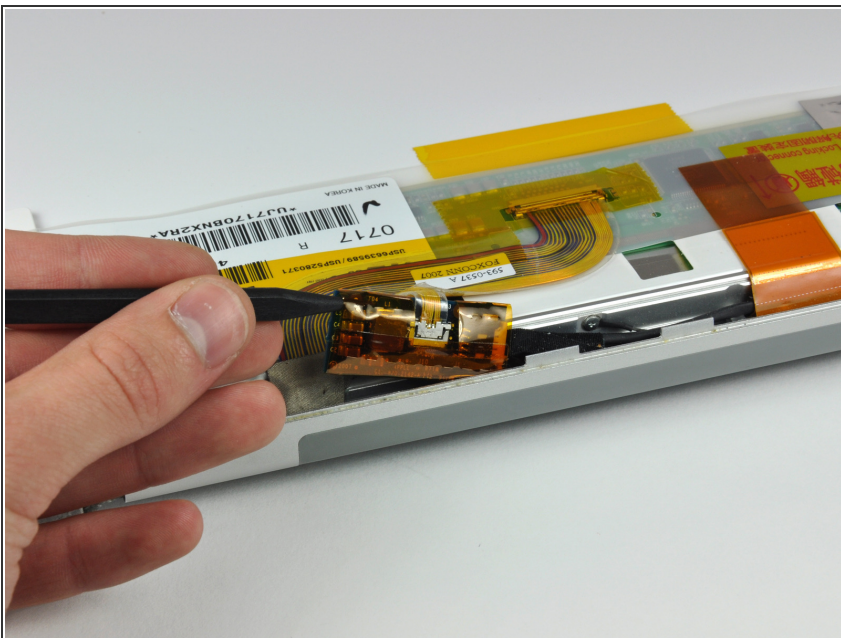
- Insert the flat end of a spudger between the front bezel and the plastic strip attached to the rear bezel near the screw holes at the bottom corners of the display.
 - Rotate your spudger toward the rear bezel to separate it from the front bezel.
- ✦ If necessary, continue separating the left edge of the rear bezel off the tabs on the front display bezel.

Step 25



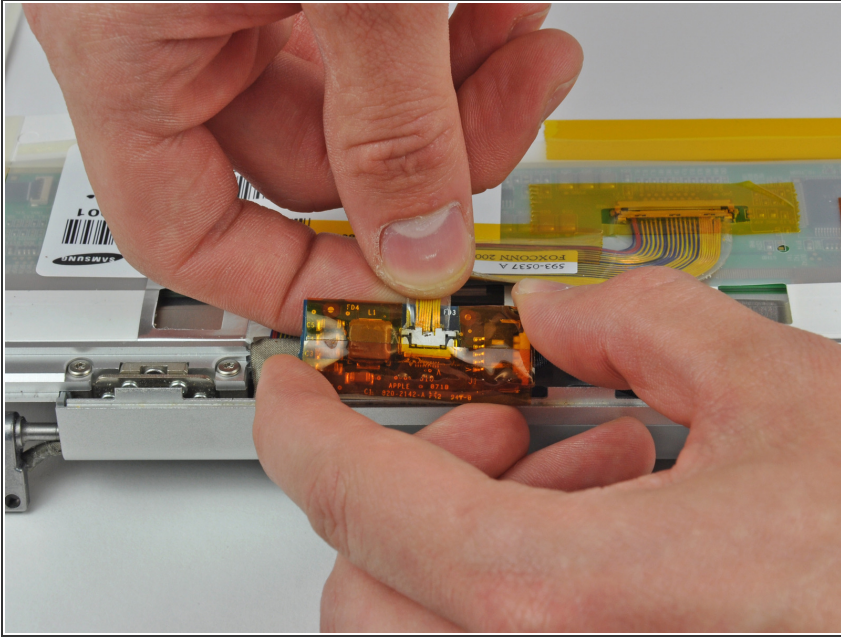
- Slightly lift the lower edge of the display and pull it away from the rear display bezel.
- Go here for the guide to continue replacing the screen: [MacBook Pro 15" Core 2 Duo Models A1226 and A1260 LCD Panel Replacement](#)

Step 26 — LED Driver Board



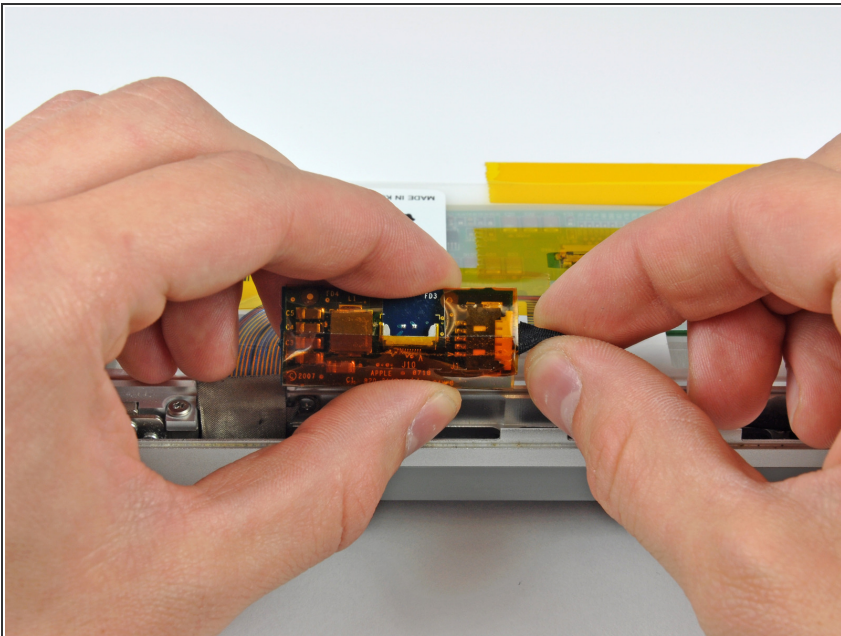
- Use the tip of a spudger to lift the LED driver board out of the clutch cover.

Step 27



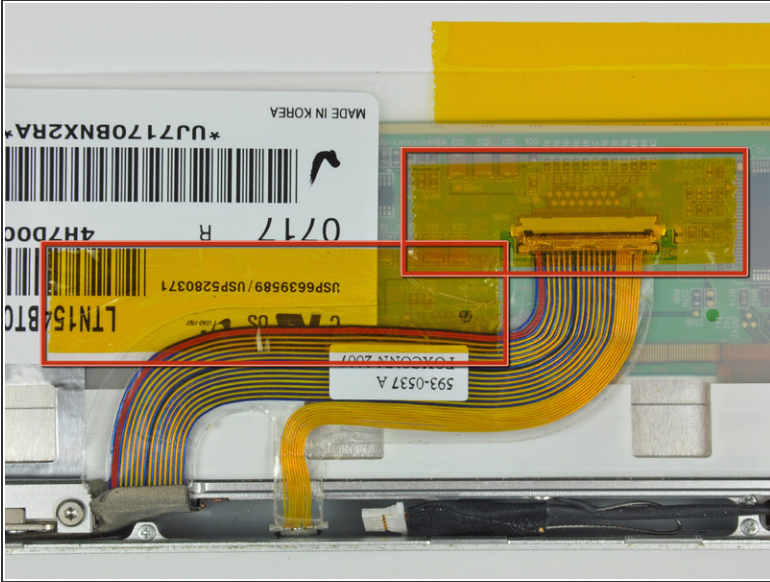
- Disconnect the backlight cable by pulling its connector away from the socket on the LED driver board.

Step 28



- ⚠ Do not put any excessive strain on the LED driver cable ground loop. It is a very thin and delicate wire that is easily broken.
- Disconnect the LED driver cable by pulling its connector away from the socket on the inverter board.
- Remove the LED driver board and set it aside.

Step 29 — Clutch Assembly



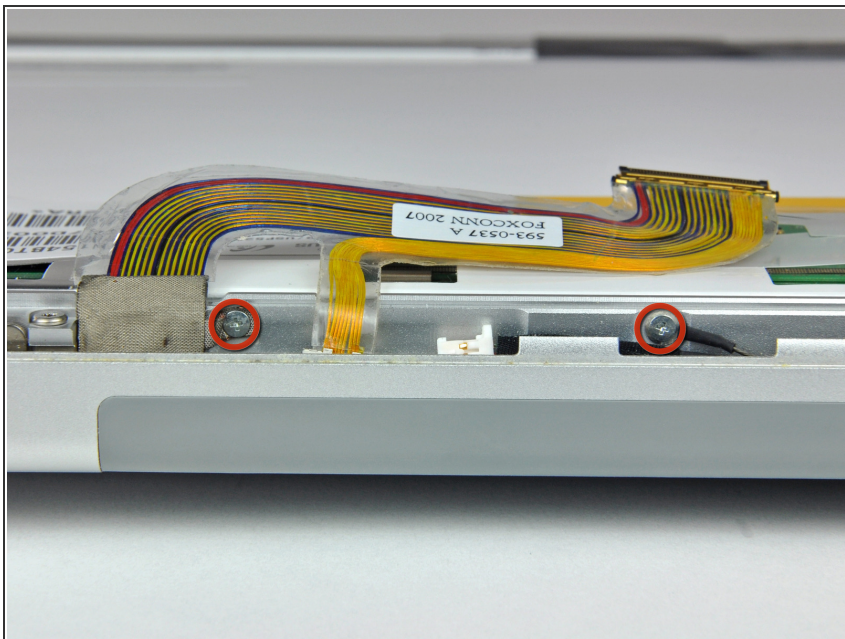
- Remove the two pieces of kapton tape covering the display data cable.
- Remove the strip of tape securing the iSight cable to the LCD.
- Peel the three antenna straps off the lower edge of the LCD.

Step 30



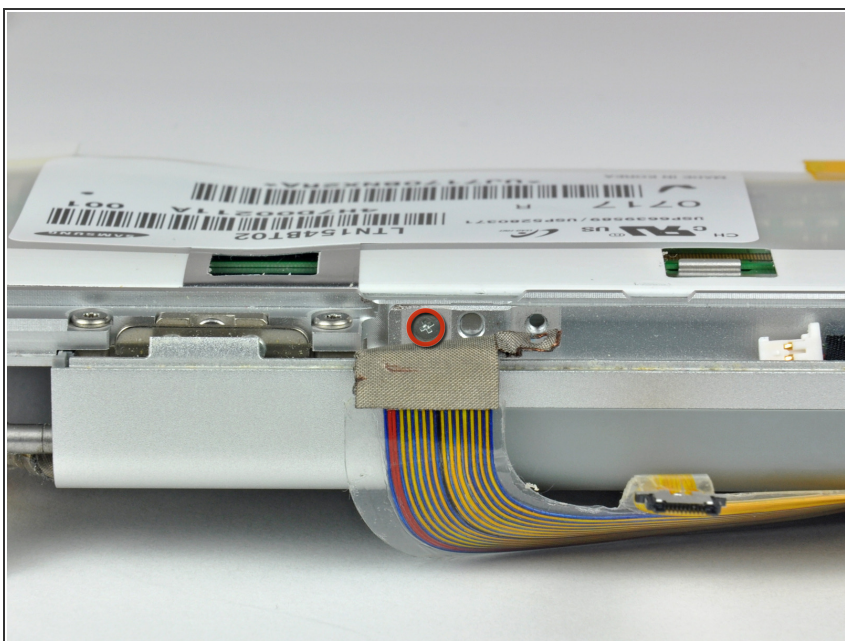
- Disconnect the display data cable by pulling its connector toward the bottom edge of the display, away from the socket on the LCD.

Step 31



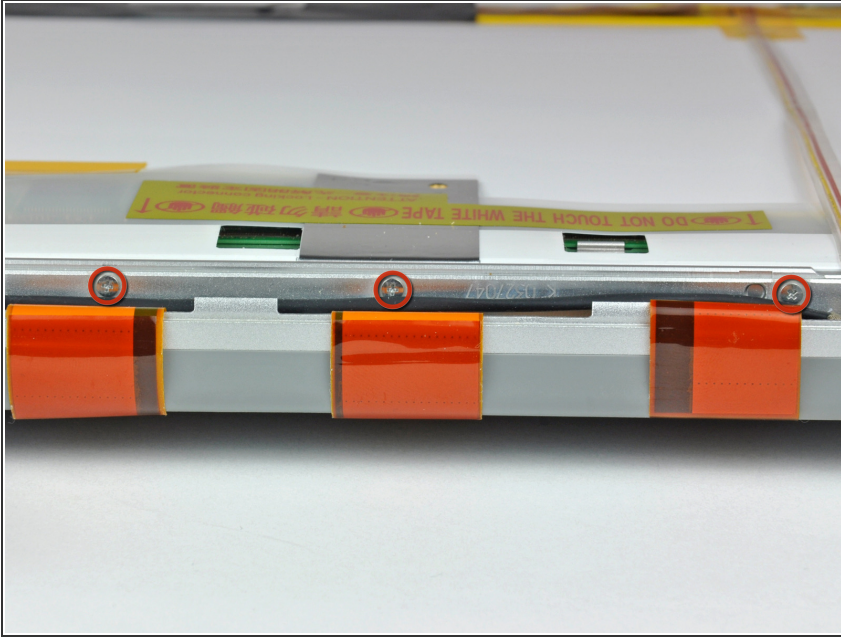
- Remove the two Phillips screws securing the ground straps for the display data cable and LED driver board cable to the clutch cover.

Step 32



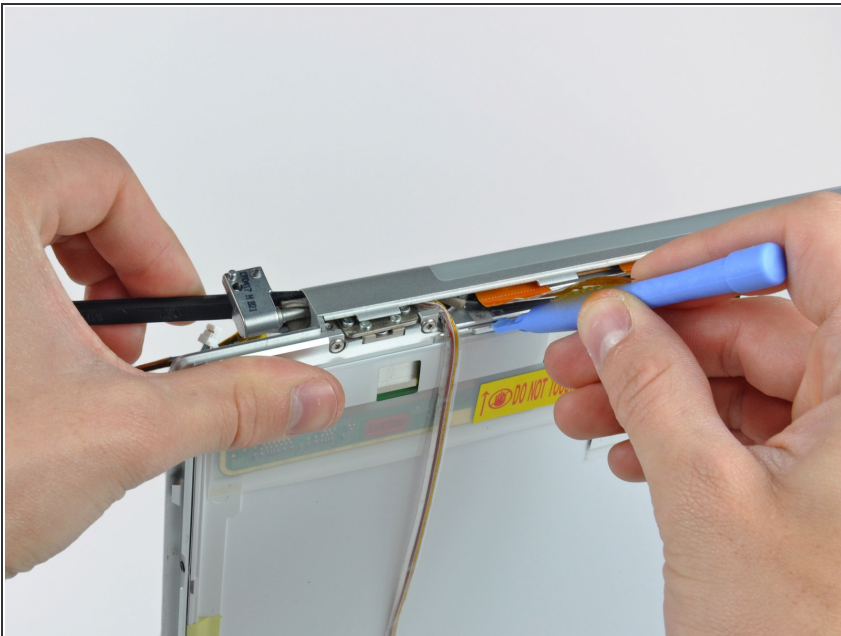
- Remove the Phillips screw hidden behind the display data cable.

Step 33



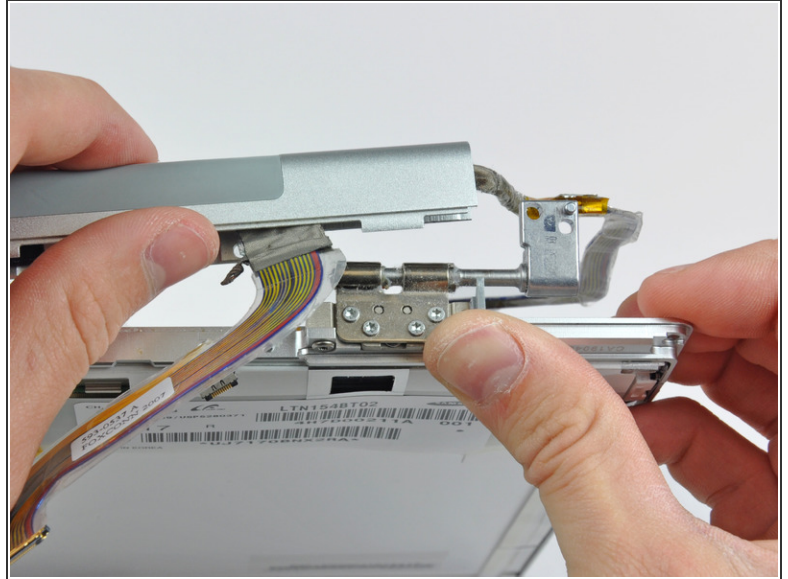
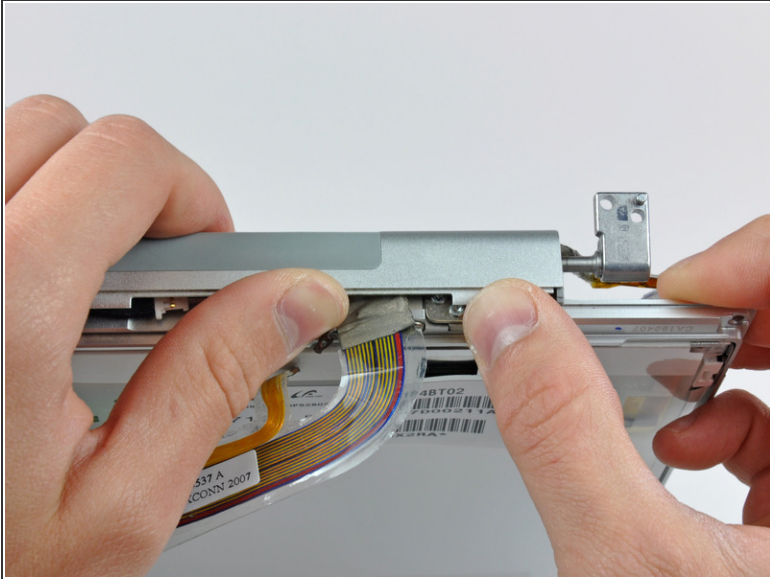
- Remove the three Phillips screws behind antenna straps along the bottom edge of the display.

Step 34



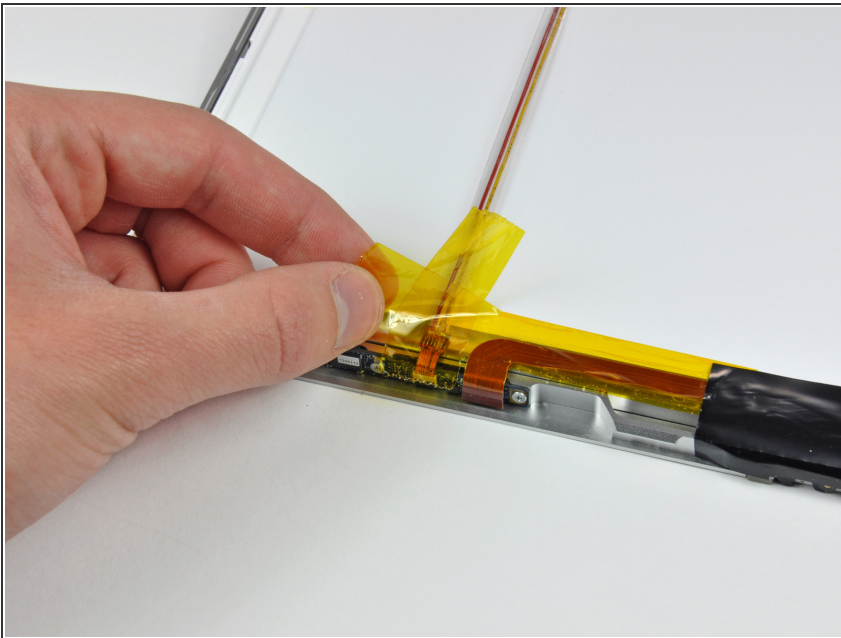
- To remove the clutch assembly, first insert the flat end of a spudger into the gap between the clutch hinge and the clutch cover where the cables exit.
- While prying the clutch assembly away from the clutch hinge with your spudger, use a plastic opening tool to increase the gap between the clutch cover and the front display bezel.
- Work your way along the length of the clutch cover to fully separate the adhesive.

Step 35



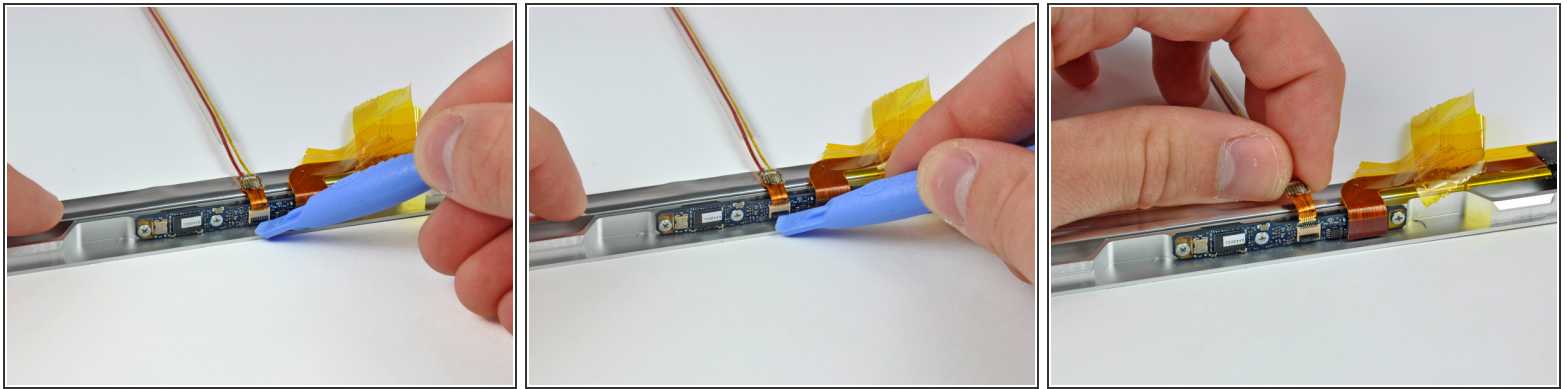
- Push the clutch assembly off each of the clutch hinges and remove it from the display.

Step 36 — iSight Cable



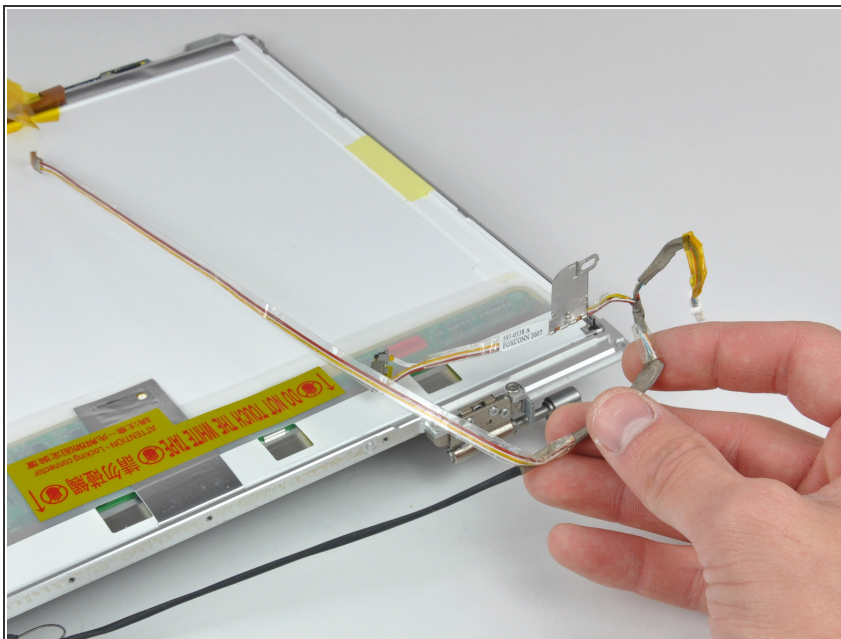
- Peel back the pieces of tape covering the iSight cable.
- ⓘ Hold the iSight cable down as you peel back the tape. It is not necessary to completely remove the tape.

Step 37



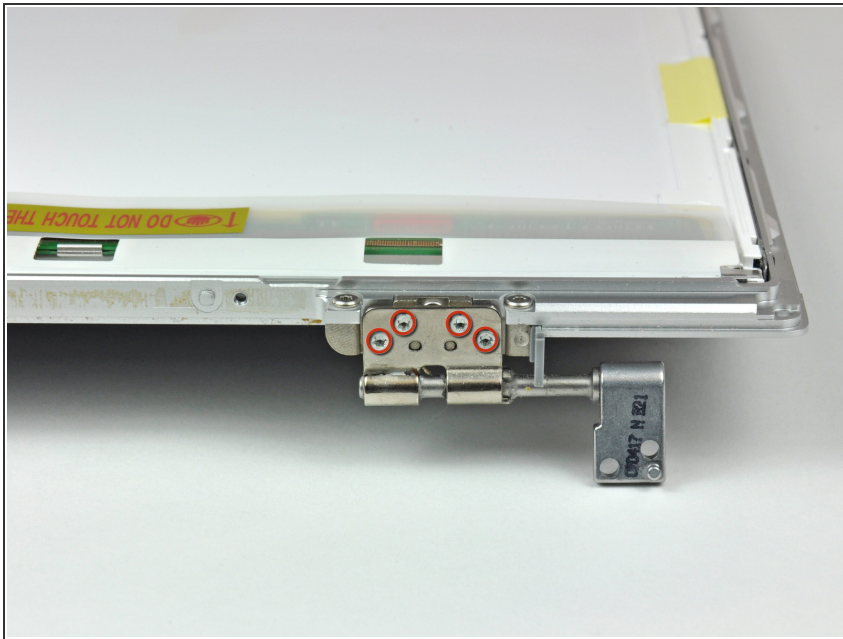
- Use the edge of a plastic opening tool to flip up the ZIF cable lock.
- Slide the iSight cable out of its socket.

Step 38



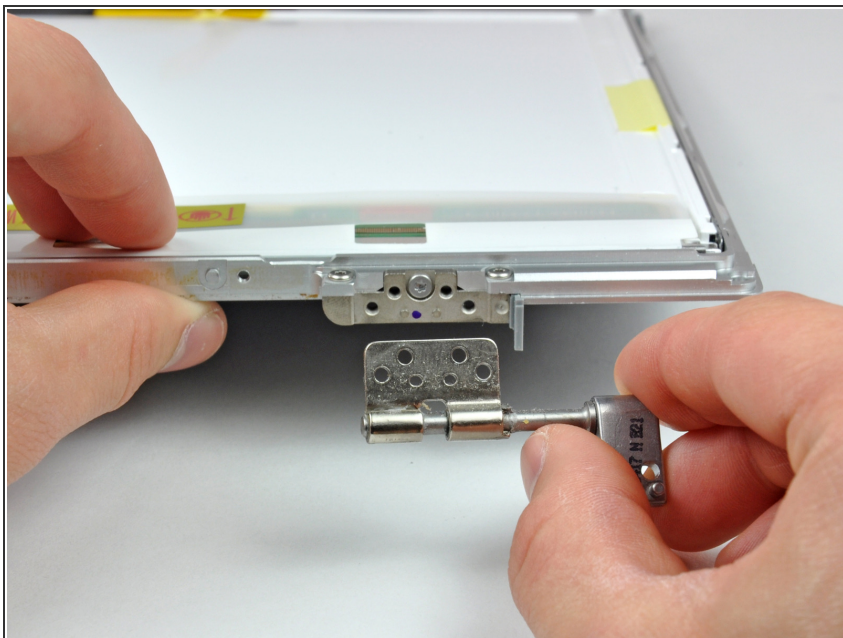
- Remove the iSight cable from the display.

Step 39 — Left Clutch Hinge



- Remove the four T6 Torx screws securing the left clutch hinge to the front display bezel.

Step 40



- Remove the left clutch hinge from the front display bezel.

To reassemble your device, follow these instructions in reverse order.

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